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AUDIO REVIEWS

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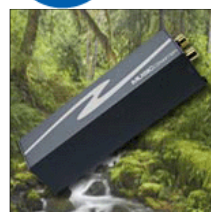
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SEPTEMBER 2009



HIGH RESOLUTION TECHNOLOGIES STREAMER+

Reviewer: Srajan Ebaen

Financial Interests: click [here](#)

Source: Esoteric UX-1; Yamamoto YDA-01, MacBook Pro, *Hegel CDP44MkII* [on review]

Preamp/Integrated: Esoteric C-03, Glow Amp One with USB, Peachtree Audio Nova with USB, Stello DA100 Signature with USB, *Stello Ai500 with USB* [on review], *Hegel H-100 with USB* [on review]

Amp: FirstWatt F5

Speakers: Acoustic System Tango R

Cables: Acoustic System Liveline interconnects, speaker cables and power cords

Stands: 4 x Ikea Molger with Ikea butcher block platforms and Acoustic System footers

Powerline conditioning: 2 x Walker Audio Velocitor S

Sundry accessories: Furutech RD-2 CD demagnetizer; Nanotech Nespa Pro; full-house installation of Acoustic System resonators, noise filters and phase inverters; Advanced Acoustics UK Orbis Wall and Corner

Room size: Sound platform 3 x 4.5m with 2-story slanted ceiling; four steps below continues into 8m long open kitchen, dining room and office which widen to 5.2m with 2.8m ceiling; sound platform space is open to 2nd story landing and 3rd-floor studio; concrete floor, concrete and brick walls, converted barn with no parallel walls nor perfect right angles; short-wall setup with speaker backs facing the 8-meter expanse

Review Component Retail: \$299.95

Deeply involved in the DVD-A consortium way before anybody could predict just how generally obscure the format would wither away on the hi-rez vine, Kevin Halverson has championed 24/96 audio playback since before the beginning. Despite those acknowledged contributions, his own Muse Electronics brand—launched in 1989 and with DVD and uni players now in their 6th generation—never really cracked the big leagues. Perhaps that replays the eternal loggerheads between serious engineers and verbose marketing spinsters? Enter Michael Hobson of Classic Records who is deep into the—relative—volume sales business of software.

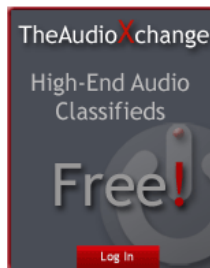
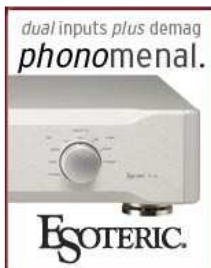
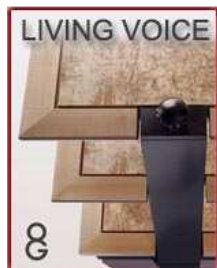
Then add Hobson's focus on upscale 200g vinyl *sonics*. Combine Kevin and Michael under their new joint venture High Resolution Technologies; introduce a self-powered USB DAC in various grades and budgets; and *viola pizzicato*, the self-explanatory Music Streamer. It streams music from hard-drive to hifi. It does so in ways claimed to eliminate the bad (computer noise) and pass only the good (uncorrupted music data perfectly converted). Where Bel Canto's \$495 USB Link merely reformats USB to S/PDIF to remain in the digital domain and require offboard D/A conversion, the *cheaper* Streamer+ converts digital files all the way to analog. When their Mina Badiyi solicited me for a review, I thought



it perfectly timely and signed up without hesitation.

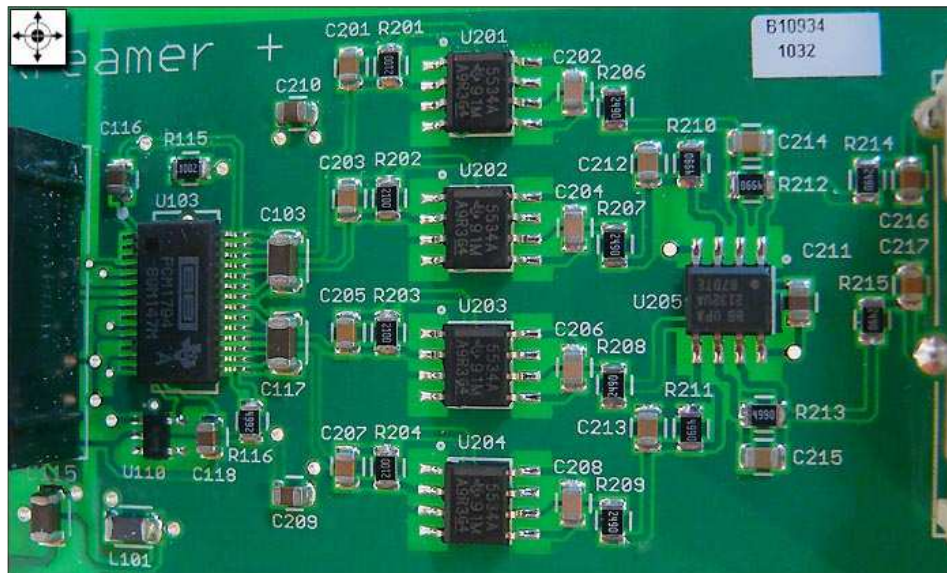


Comparing specs between standard and Plus Streamer (a Pro is in the wings) shows that physical dimensions diverge only in depth. The Plus adds an inch in length over the 4.1" x 2.1" x 1.2" of the nonplussed. Both output 2.25V RMS and share the 250mA power requirement which is supplied by the USB host to not require a separate power supply. The transfer protocol of 48kS/s data rate at 16-bit depth on the USB 1.1 standard is identical as is the 20M-ohm input impedance to isolate USB input from analog audio output. It's the performance specs that differ. The Plus has a lower noise floor and hence superior S/N ratio (22uV RMS from DC to 30kHz vs. 174uV; 100dB vs. 82dB or, A-weighted, 107dB vs. 86dB). THD at 1kHz also drops from 0.06% to 0.02%. This suggests costlier parts. The only other distinction is a red enclosure for the standard. The Plus goes black but a bit deeper into the red on price (the standard sells for a puny \$99.95).

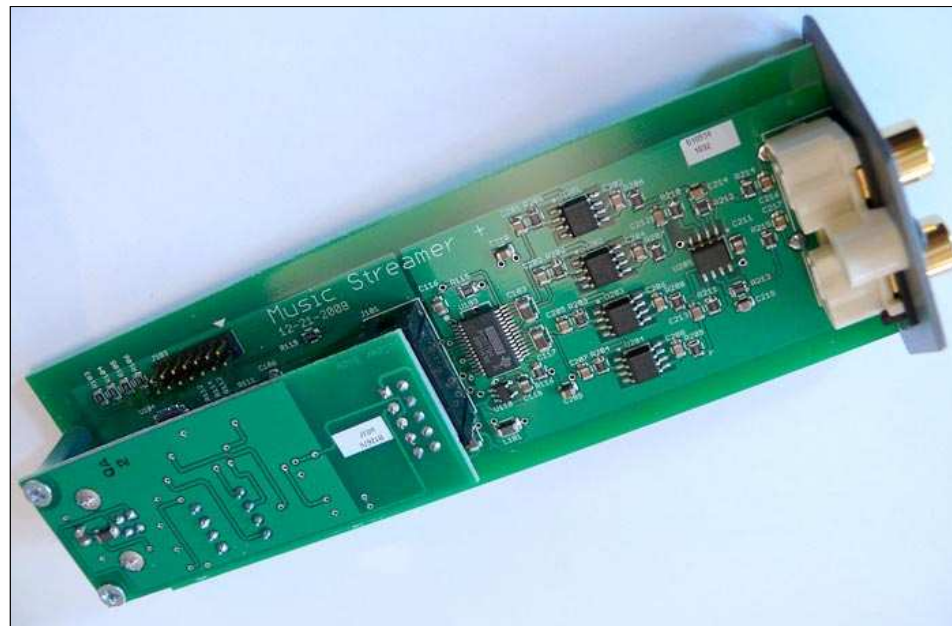


On to generalities. USB DACs have become the definitive stop gap between virtual media and traditional hifi. Gordon Rankin of Wavelength Audio is a pioneer in that sector, having written his own code to allow asynchronous data transmission. This deslaves the DAC clock from the computer. (Charles Hansen of Ayre Acoustics has since licensed Rankin's solution and dCS in the UK premiered their own asynchronous protocol). Halverson's status as gifted digital engineer suggested his own wrinkle to this challenge, particularly at the very low price his device was targeted to sell for. Let's get him in the loop for the tech and also, how far up the digital food chain he believes his device competes.

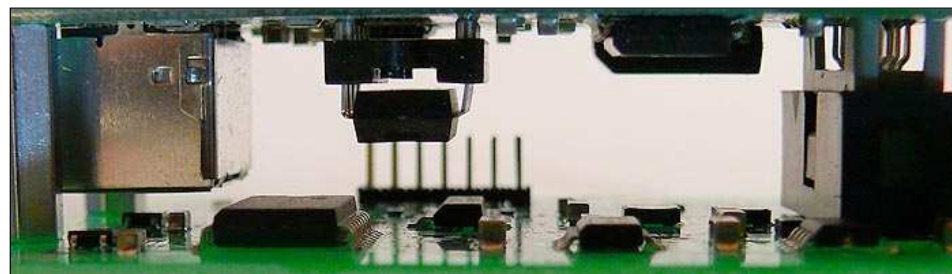
"Perhaps more significant than the Streamer+ being a \$299.95 retail product is the fact that the Streamer is \$99.95. This has taken a lot of effort to reach these price points and still build the product in the US. One of my underlying goals was to finally have involvement in a product line that has the potential to reach well outside of the normal and rather insignificant footprint of the high-end audio market. My reasoning was that if a number of people become aware of the concept of high-quality audio through exposure to low cost products, some of these will move up to even higher performance products over time. It is a sort of reseeding of the audiophile market from below. One comment made to me that I found to be significant came from my two daughters (21 and 19 years of age). For the very first time, they said that these are products that their friends would actually purchase. They confirmed for me that we are on the right track.



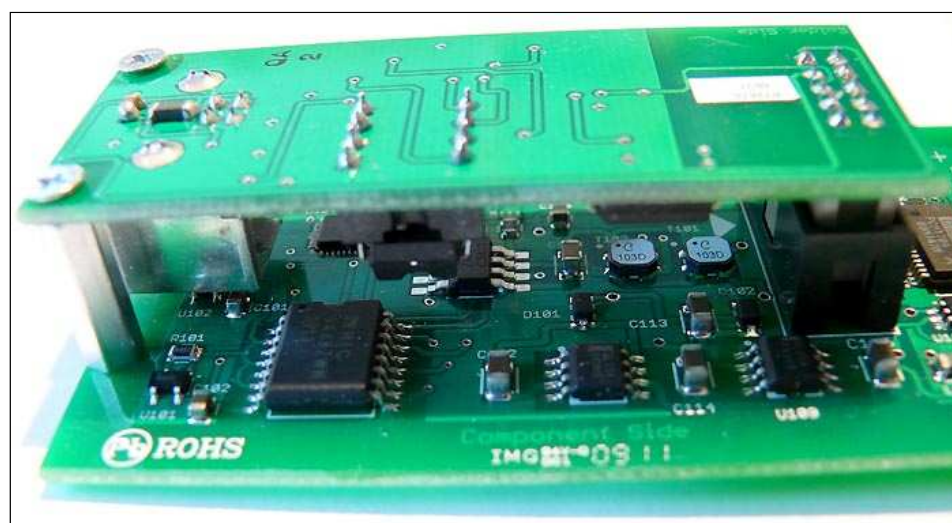
"To accomplish these prices requires very large volume and equally aggressive pricing. So, don't let the prices scare you too much, both products are very high quality, very single-minded in approach, very focused on their tasks but built with large volume manufacturing processes. Wavelength's approach to an asynchronous interface is but one of a number of valid approaches. Their approach works well but it is *not* the only technique that achieves a low jitter interface. Perhaps more important is that there are other issues with nearly all computer-sourced audio interfaces that are not related to jitter yet present just as big of an impediment to good results. It is these areas that have tended to be completely ignored in the past. This is where our technology might give us a competitive advantage (I would like to think so but that is up to others to judge). In terms of manufacturing design, I am fairly confident that there are few areas where we could make further advances that would yield any further improvement in the performance/price ratio. We have worked very hard on this aspect of the products.



"You are right, the price differential between our approach and others (at least high-end audio types) is considerable. In the case of the Streamer +, it utilizes a conversion topology that one would find in a typical high-end audio device that is up to near an order of magnitude higher in price so feel free to be brutal in your comparative testing. The Music Streamer Pro is actually intended for a somewhat different market than the other two. The Pro has balanced outputs (using the MiniQ XLR connectors) and has a higher FS (full scale) output level (4VRMS vs 2 VRMS) to be more compatible with professional products. The retail price has been set at \$399. The Pro will be released near the end of next month. Certainly there will be some consumers that go for the Pro, but the different XLR connectors will present a bit of challenge for them. They are not going to find too many hifi wire and cable types that are using the MiniQs yet.



"About the joint venture, Michael and I have worked together on projects for well over a decade now. We were involved in the launch of the first audiophile DVD playback source material and hardware solutions starting back in 1997. I have designed and supplied a number of semi custom hardware and software solutions for the pre mastering industry. Muse and myself have been involved in DVD authoring since before the consumer launch of the media. In fact, our authoring experience goes back to a point in time where there were less than 50 seats worldwide.



"Michael and I started looking at the idea of a joint venture early last summer. By October, we were ready to spin up a new company and we got our first two products launched just in time—barely—for CES this year. The success thus far has been pretty stunning. We are adding distributors at a pace that I haven't seen in many years so I am very happy to say the least. And your assumption is correct, the difference between the Music Streamer and the Music Streamer + is almost entirely in the DAC topology. This accounts for the considerable difference in the noise floor and distortion characteristics of the two."



Naturally, I was most curious about the "usually always overlooked" aspects of Kevin's approach to a cheap state-of-the-art USB DAC but not surprisingly, mum was his word. Why give away hard-earned intellectual property in an age where blatant copy catting has been developed into an art form as ubiquitous as graffiti?



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